

NOTES ON SOME TREES AND SHRUBS OF WESTERN
CHESHIRE COUNTY, NEW HAMPSHIRE.

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THE past three summers have afforded an opportunity to study the vegetation of a portion of southwestern New Hampshire drained by the Connecticut River and its tributaries, the Ashuelot and the Cold Rivers. The principal observations have been made in the course of short walking or longer driving excursions within a radius of about ten miles from Alstead Centre. Here have been noted very many species quite unfamiliar to one whose knowledge of the New Hampshire flora is confined to the White Mountains, the dry upland of eastern Cheshire County, or the coastal area. The forests of western Cheshire County are essentially deciduous, though occasional spruce or fir swamps occur and white and pitch pine are found in their proper habitats. In the main, however, the forests are composed of southern rather than northern trees; and several species which rarely reach eastern or central New Hampshire are here conspicuous elements in the landscape.

In the following notes are recorded such trees and shrubs of this region as seem to the writer of sufficiently restricted range in New England to be of special interest. Note is also made of a few species generally common throughout eastern New England but apparently wanting or very rare in the southwestern corner of New Hampshire.

Pinus resinosa, Ait. Very rare and scattered.

P. rigida, Mill. Abundant on the Drewsville sand-plain and on the lower slopes of Fall Mt., Walpole. Scattered individuals reach an altitude of 340 m. (1100 ft.) at Alstead Centre.

Larix americana, Michx. Only cultivated specimens noted in the region.

Picea rubra, Link. The only spruce seen. Scattered in upland woods and occasionally forming forests.

Abies balsamea, Mill. Often planted, but native only in upland woods and swamps at about 460 m. (1500 ft.) alt., near Gustin Pond, Marlow.

Thuja occidentalis, L. Only cultivated specimens seen.

Juniperus communis, L., var. *canadensis*, Loud. Very rare. One small station noted on a hillside near Keene.

J. virginiana, L. Dwarf trees at scattered stations in Alstead.

Juglans cinerea, L. Very common in rich soil.

Carya amara, Nutt. Frequent, especially by streams.

C. alba, Nutt. Frequent in upland woods; ascending to 370 m. (1200 ft.) at Alstead Centre.

Populus balsamifera, L., var. *candicans*, Gray. One of the commonest and stateliest trees in the alluvium of the Connecticut and the Cold River. With Negundo, River Maple, and White and Slippery Elm, forming a tall and dense forest along the Connecticut at the foot of Fall Mt., and opposite Bellow's Falls. The densely pubescent petioles and the ciliate margins of the broad-cordate leaves at once distinguish this tree from the usually smaller but more common *P. balsamifera*.

Salix longifolia, Muhl. Small shrubs by the Connecticut, below Fall Mt., Walpole.

Betula populifolia, Marsh. Rare: occasional scattered trees in dry soil.

Castanea sativa, Mill., var. *americana*, Gray. Frequent, especially in upland woods.

Quercus rubra, L. The common oak of the upland woods.

Q. velutina, Lam. (*Q. tinctoria*, Bartram). Frequent in sandy soil, Drewsville.

Q. ilicifolia, Wang. Common on the Drewsville sand-plain and at the base of Fall Mt., Walpole.

Q. alba, L. The common oak of the sand-plains and of dry woods, especially below 250 m. (800 ft.) altitude.

Q. prinoides, Willd. Fruiting shrubs 1 m. high abundant on the crest of Fall Mt., Walpole.

Ulmus fulva, Michx. Scattered trees with the more abundant *U. americana* in alluvium of the Connecticut River.

Sassafras officinale, Nees. Small trees on the eastern slope of Fall Mt., Walpole.

Ribes Cynosbati, L. Very abundant in damp gravelly or rocky soil.

R. oxycanthoides, L. The smooth-fruited gooseberry so common throughout eastern New England has been searched for in vain, and it appears to be quite unknown to the people of the region.

Platanus occidentalis, L. Frequent by streams.

Rubus neglectus, Peck. Frequent in damp thickets, Alstead and Walpole. Resembling *R. occidentalis*, but with purplish-red raspberry-like fruit.

R. nigrobaccus, Bailey, var. **calycosus**. Calyx composed of veiny laciniate or toothed leaf-like sepals 2 to 6 cm. long: lower pedicels usually elongated: fruit 0.5 to 1 cm. long, dry. Covering several square rods in a dry thicket, Alstead Centre, Aug. 7, 1899 (*M. L. Fernald* in Herb. Alstead School Nat. Hist., no. 21); July 28, 1901 (*E. F. Williams*). First called to the writer's attention by Miss Alice Mallonee. Apparently identical specimens are in the Gray Herbarium from Caldwell, New Jersey, 1879 (*M. S. Crane*), and from Wyathville, Virginia (*H. Shriver*).

Rosa blanda, Ait. Rare in alluvium by the Connecticut, Westmoreland.

R. carolina, L. Infrequent, margin of Warren Pond, Alstead.

R. humilis, Marsh. Abundant on the Drewsville sand-plain and on the west slope of Fall Mt., Walpole.

R. lucida, Ehrh. This, the common rose of eastern New England, is apparently unknown in southwestern New Hampshire. Only one station, in the Hoosac valley, is recorded in Vermont.

R. nitida, Willd. This species, as yet unrecorded in Vermont, has been noted about various ponds and in boggy meadows in Alstead and Marlow, only a few miles from the Vermont border.

Prunus americana, Marsh. One clump of small trees in a thicket at Alstead Centre has the characteristic spherical fruit of this species. *P. nigra*, Ait., with oblong laterally flattened fruit is abundant.

P. insititia, L. Well established in a roadside thicket, Surry.

P. pumila, L. Very abundant in sand and gravel by the Connecticut. The fruit, mature in late July, has been used successfully in making a rich dark jelly.

Xanthoxylum americanum, Mill. Locally abundant on the gravelly slope of Surry Mt., Surry: also at scattered stations in Alstead.

Rhus copallina, L. Common in dry soil in the Connecticut valley; ascending to 280 m. (900 ft.) near Alstead Centre.

R. glabra, L. Drewsville sand-plain and slopes of Fall Mt., Walpole.

Acer saccharum Marsh., var. *barbatum*, Trelease. Characteristic trees with small firm dark green three-lobed leaves appear very distinct, but many transitions are noted between this and the typical *A. saccharum*.

A. saccharum, var. *nigrum*, Britton. Occasional in alluvium of

the Cold River. The large dark green "flabby" leaves with closed sinuses and with densely pubescent petioles and lower surfaces quickly distinguish this tree from the ordinary forms of the sugar maple.

A. saccharinum, L. (*A. dasycarpum*, Ehrh.). The common maple of alluvium by the Connecticut and the lower Cold River.

A. Negundo, L. Frequent in alluvium by the Connecticut.

Ceanothus americanus, L. Abundant on dry banks of the Connecticut, on Fall Mt. and the Drewsville sand-plain.

Vitis Labrusca, L. Occasional on dry banks.

V. aestivalis, Michx. Rocky slope of Fall Mt., Walpole.

V. vulpina, L. (*V. riparia*, Michx.) Abundant by rivers. Climbing high (often forty feet) and forming dense arbors by the Connecticut.

Dirca palustris, L. Very local: one small bush in rich woods below Alstead Village.

Nyssa sylvatica, Marsh. Small fruiting trees in gravel by the Connecticut, base of Fall Mt., Walpole.

Rhododendron cænescens, Don. Common on Fall Mt., and on gravelly banks of the Connecticut.

R. Rhodora, Don. Apparently rare or unknown in the region, although abundant on Mt. Monadnock a few miles distant.

Kalmia latifolia, L. Forming an extensive thicket by the Ashuelot River, Gilsum.

Andromeda ligustrina, Muhl. Frequent in damp gravelly soil below 308 m. (1000 ft.) altitude.

Gaylussacia resinosa, Torr. & Gray, var. *glaucocarpa*, Robinson. With the species, gravelly banks of the Connecticut, Walpole.

Vaccinium corymbosum, L., var. *atrococcum*, Gray. Abundant with the species, Warren Pond, Alstead.

V. vacillans, Kalm. Abundant in dry soil, Drewsville sand-plain, slopes of Fall Mt., and other sections of Walpole.

Fraxinus pennsylvanica, Marsh. (*F. pubescens*, Lam.). Gravelly shore of the Connecticut, Walpole.

F. pennsylvanica, var. *lanceolata*, Sargent (*F. viridis*, Michx.). With the species.

F. nigra, Marsh. Valley of the Cold River, Alstead and Marlow. Rare below 400 m. (1300 ft.) altitude.

Lonicera dioica, L. (*L. glauca*, Hill). Frequent either as a climbing

vine or a sprawling shrub, Drewsville sand-plain, Fall Mt., and at other sections of Walpole.

ALSTEAD SCHOOL OF NATURAL HISTORY, Alstead, New Hampshire.

NOTES ON THE FERNS OF MARANOCOOK, MAINE.

HAVEN METCALF.

I find upon consulting my notes and herbarium, made during some years of residence in Winthrop, Maine, that I can supplement Mr. Davenport's list in RHODORA, i. 218, as follows. All the plants named, except where noted, grow within two miles of the Maranocook station.

Aspidium fragrans Swartz. Scarce; along a brook on the east shore opposite Craig's Point. Also on the northern slope of Mt. Pisgah, five miles southwest of Maranocook.

Aspidium Goldianum Hook. Fairly common in woods on north and east shore of the lake.

Asplenium ebeneum Ait. In one locality, near Kent's Hill.

Asplenium thelypteroides Michx. In several localities near the shores of Lake Anabescook.

Asplenium Trichomanes L. Along the steep banks of a gully, toward Kent's Hill.

Camptosorus rhizophyllus Link. In one locality only, growing over a ledge, near Kent's Hill. When I last visited the place, in 1894, the plants were being decimated by local amateur collectors.

Cystopteris fragilis Bernh. Common in upland woods throughout the region.

Polypodium vulgare L. Common; hills west of the lake.

Woodsia ilvensis R. Brown. Fairly common along high land east of lake, about ledges.

Woodsia obtusa Torr. Several localities about Mt. Pisgah.

Woodwardia virginica Smith. Abundant in the swamp along the Readfield shore, also in the swamps east of Mt. Pisgah.

Twelve years ago *Adiantum pedatum* was very common all about this region; but the plant has been so much sought after by summer visitors that it is practically extinct in all accessible localities. It is